OIB - Other: NOAA P-3 05/03/16 Science Report

Aircraft:
Other: NOAA P-3
Date:
Tuesday, May 3, 2016
Mission:
OIB
Mission Location:
Arctic Ocean
Mission Summary:

Today OIB completed the sea ice North Pole Transect mission. This mission is a near-repeat of an OIB flight flown each year since 2013. The purpose of the mission is to measure the thickness gradient of the ice between the pole and Greenland/Ellesmere Island. At the beginning of the line we entered clouds so went to 2000 feet altitude to stay above them for visibility and icing concerns, then descended back to 1500 feet once out of the clouds. We expected more clouds near the pole from imagery and forecast models, but found only optically thin clouds on the northbound leg of the line towards the pole and almost entirely clear skies on the southbound leg away from the pole. The northbound leg followed a CryoSat-2 orbit with a ~3 hour time difference between our data collection and the satellite overpass. Good data was collected under the CryoSat-2 orbit except for the beginning of the line noted earlier.

Troubleshooting of the BESST instrument continued during this flight with an attempt to determine if RFI from the nose weather radar was causing the system to shut down. The radar was turned off after we exited the cloud deck at the beginning of the line and the power was cycled to restart the system. Since the BESST and FLIR instruments share the same power source this led to a several minute gap in the FLIR data, however forward observers in the cockpit indicated no sea ice leads were present during this gap time. However, shortly after take-off the BESST system had shut down and a system boot error had occurred which prevented the collection of further data and determination of the source of the problems.
A ramp pass was also conducted.

Data volumes:
ATM: 27 Gb some window contamination probable later in flight
FLIR: 3.5 Gb
DMS: 111 Gb
Ku-Band Radar: 137 Gb
MCoRDS: 2.5 Tb, opportunistic data over land ice during transit and experimental data over sea ice
Snow Radar: 137 Gb
BESST: (system malfunction caused loss of data collection shortly after take off)

Lost about 30 minutes of data due to clouds, 20 minutes beginning and 10 end

Submitted by:
Nathan T. Kurtz on 05/04/16
File:
nptransect.pdf
Related Flight Report:

Other: NOAA P-3 05/03/16

Flight Number:
Sea Ice North Pole Transect
Payload Configuration:
OIB Spring 2016
Nav Data Collected:
No
Total Flight Time:
7.6 hours
Submitted by:
John Woods on 05/03/16
Flight Segments:

From:	BGTL	**To:**	BGTL
Start:	05/03/16 11:02 Z	**Finish:**	05/03/16 18:39 Z
Flight Time:	7.6 hours		
Log Number:	16M030	**PI:**	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	North Pole Flight; Ditching Drill		

Flight Hour Summary:

	16M030
Flight Hours Approved in SOFRS	200
Total Used	148.7
Total Remaining	51.3

16M030 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
03/22/16	ICF1	Check	2	2	198
03/23/16	ICF2	Check	3.4	5.4	194.6
04/12/16	ICF3	Check	1.3	6.7	193.3
04/15/16	Repo 1	Ferry	0.5	7.2	192.8
04/16/16	Repo 2	Ferry	2.9	10.1	189.9
04/18/16	Repo 3	Ferry	7.1	17.2	182.8
04/19/16	Sea Ice Eureka	Science	7.3	24.5	175.5
04/20/16	Sea Ice Laxon Line	Science	8.7	33.2	166.8
04/21/16 - 04/22/16	Sea Ice SIZRS Zigzag	Science	8.3	41.5	158.5
04/30/16	Sea Ice South Basin Transect	Science	8.8	50.3	149.7
05/03/16	Sea Ice North Pole Transect	Science	7.6	57.9	142.1
05/04/16	Sea Ice South Canada Basin	Science	7.9	65.8	134.2
05/09/16	Land Ice Zachariae-79N	Science	7.6	73.4	126.6
05/10/16	Land Ice Northwest Coastal A	Science	6	79.4	120.6
05/11/16	Land Ice Umanaq B	Science	7.1	86.5	113.5
05/12/16	Land Ice Southeast Coastal	Science	7.3	93.8	106.2
05/13/16	Land Ice Helheim-Kangerdlugssuaq	Science	7.8	101.6	98.4
05/14/16	Land Ice SW Coastal A	Science	7.8	109.4	90.6
05/16/16	Land Ice Thomas-Jakobshavn 01	Science	7.9	117.3	82.7
05/17/16	Land Ice Helheim-Kangerdlugssuaq Gap B	Science	8.1	125.4	74.6
05/18/16	Land Ice IceSat-2 Central	Science	7.7	133.1	66.9
05/19/16	Land Ice East Glaciers 01	Science	7.1	140.2	59.8
05/21/16	Ferry BGSF_KMCF	Ferry	8.5	148.7	51.3

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Page Editor: Erin Justice

NASA Official: Bruce A. Tagg

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